

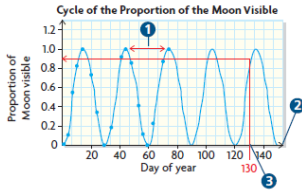
Periodic Phenomena Worksheet 6.2 p326

Characteristics of a Sine Function

Periodic Function - a function whose values are repeated at equal intervals of the independent variable

Apr 19-8:14 AM

David's Solution

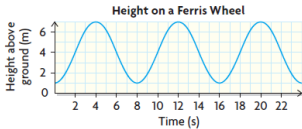


I drew a scatter plot with Day of year as the independent variable and Proportion of Moon visible as the dependent variable. Then I interpreted the pattern.

- 1 This graph has a repeating pattern. Its period is 30 days. I can tell because the proportion returns to 0 at 30 days, and the next part of the curve looks the same as the previous part.
- 2 I used the repeating pattern to extend the graph to 150 days.
- 3 I used the graph to estimate the proportion of the Moon visible on day 130.

Nov 12-7:39 AM

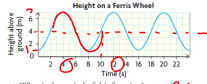
6. This is a graph of Nali's height above the ground in terms of time while riding a Ferris wheel.



- a) What is the period of this function?
- b) What does the period represent?
- c) What is the diameter of the Ferris wheel? How do you know?
- d) Approximately how high above the ground is Nali at 10 s?
- e) At what times is Nali at the top of the wheel?
- f) When is Nali 4 m above the ground?

Nov 15-9:06 AM

6. This is a graph of Nali's height above the ground in terms of time while riding a Ferris wheel.



- a) What is the period of this function? 8s
- b) What does the period represent? length of time 1 full rotation
- c) What is the diameter of the Ferris wheel? How do you know? 6m
- d) Approximately how high above the ground is Nali at 10 s? 4m
- e) At what times is Nali at the top of the wheel? 4, 12, 20, 28...
- f) When is Nali 4 m above the ground? 2, 6, 10, 14, 18...

- a) 8s period
- b) Time it takes to reach the same height again.
- c) $\text{max} = 7 = 7 - 1 = 6\text{m}$
 $\text{min} = 1$
- d) at 10sec $\rightarrow 4\text{m}$
- e) 4s, 12s, 20s... extrapolation
- f) 2s, 6s, 10s, 14s, 18s, 22s

Nov 15-9:06 AM

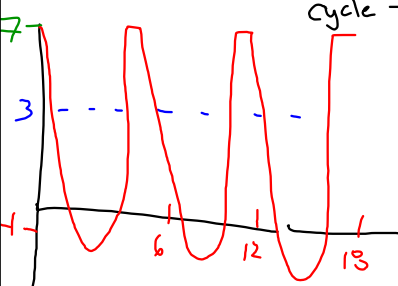
P 330 -333

q.1, 4, 5,7, 9 & 10

Complete Worksheet First!!

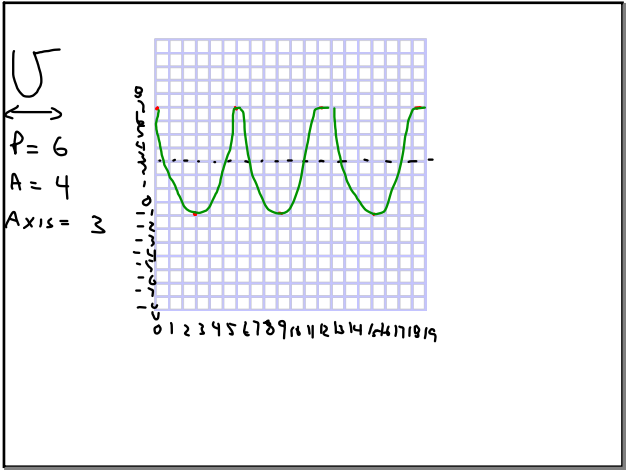
Apr 23-2:28 PM

Other Examples

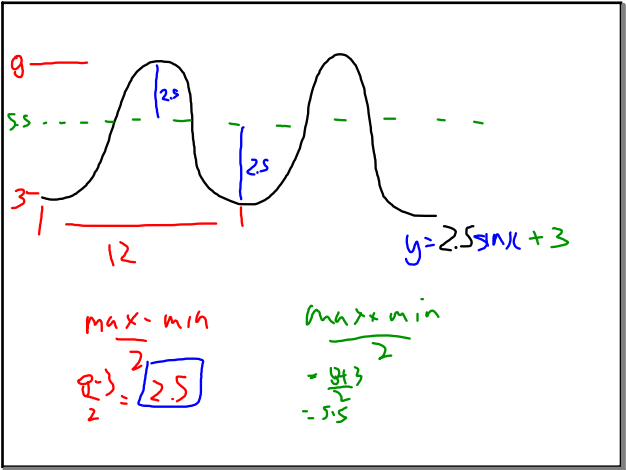


axis of symmetry = 3
amplitude = 4
cycle - 6 sec

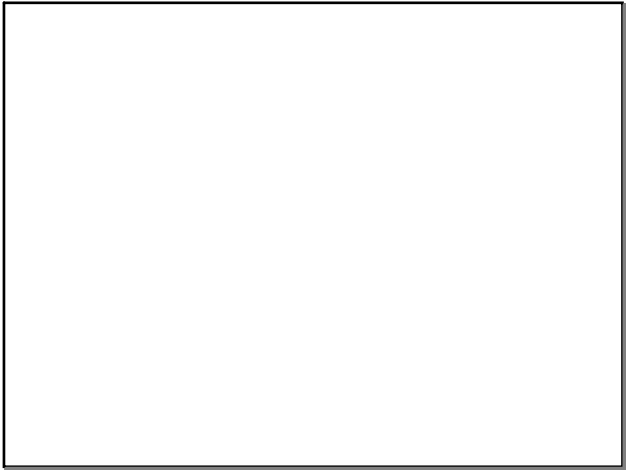
Apr 19-10:09 AM



Apr 23-2:07 PM



Nov 19-10:06 AM



Nov 7-7:43 AM